Abstract of Quality Assurance plan (BUILDING AND ROAD)

Name of Work :	Construction of Synthetic tennis court,street vending zone & other developmental works at judicial layout main and cross roads, Chikkabommasandra, Someshwara nagar,Allalasandra village & surrounding areas in ward No-04 of yelahanka Division under Amruth Nagarothan Grants(Package No-06)		
Estimate Cost :	2000 Lakhs	Sanction no:	Contractor: M/s SMLP Asphalts , Prop B.B. Umesh
As Per tender/ Date of commencement of work :	03-09-2022	As Per tender /Date of completion of work:	02-03-2023

Sl No	Materials required for finishined item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No of test by		No of test by Competent Authority / Manufacturer/ Contractor	Total nos of test conducted by		Frequency as per Relevent IS Codes and MoRTH Quality Plans	Reference	Remarks
						Const Sub-Dn/PMC	QA ~~Sub~~-dn		Const Sub-Dn	QA ~~Sub~~-dn			
Earthwork													
1	Soil for Filling	Cum	-	Grain Size Analysis Atterberg Limits Lab MDD & OMC	-	—	—				2 tests per 3000cum or change in source	IS 2720-1973 (part 4) & IS 2720 (Part 5) - 1980	
Concrete works													
2	40 mm and down size Coarse aggregate	Cum	1273.00	Gradation	13 Tests	100%	~~100%~~				One Test per 100 Cum/ or Change in source	IS 383-2016, IS2386(part1 - 8)	Any change in source / visual observations, number of tests may be increased and subsequently on monthly basis
				Flakiness and Elongation index	1 Test	AR	~~1 sum~~				Once at beginning for each source	IS 383-2016, IS2386(part1)-1963 &2430-1969	
				Impact value	1 Test	1	~~1 sum~~					IS 383-2016, IS2386(part IV)-1963 &2430-1969	
				Water Absorbtion	1 Test	AR	~~1 sum~~					IS 383-2016, IS2386(part III)-1963 &2430-1969	
3	20 mm and 12.5 mm down size Coarse aggregate	Cum	1635.85	Gradation	16 Tests	100%	~~100%~~				One Test per 100 Cum/ or Change in source	IS 383-2016, IS2386(part1)-1963 &	
				Flakiness and Elongation index	1 Test	AR	~~1 sum~~				Once at beginning for each source	IS 383-2016, IS2386(part1)-1963 &2430-1969	Any change in source / visual observations, number of tests may be increased and subsequently on monthly basis
				Impact value	1 Test	1	~~100%~~					IS 383-2016, IS2386(part IV)-1963 &2430-1969	
				Water Absorbtion	1 Test	AR	~~1 sum~~					IS 383-2016, IS2386(part III)-1963 &2430-1969	

RANDOM SAMPLE

No	Materials required for finishined item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No of test by		No of test by Competent Authority / Manufacturer/ Contractor	Total nos of test conducted by		Frequency as per Relevent IS Codes and MoRTH Quality Plans	Reference	Remarks
						Const Sub-Dn/PMC	QA ~~Sub~~-dn		Const Sub-Dn	QA Sub-dn			
4	Fine aggregate	Cum	1454.43	Seive analysis	15 Tests	100%	10%				One Test per 100cum or Change in source	IS 383-2016, IS2386(part 2)-1963 &2430-1969	Any change in source / visual observations, number of tests may be increased
5	Cement	Bags	5315.24	Normal Consistency	2 Tests	AR	1 num				1 test for each consignment/ 1 test for every 5000 bags/as decided by the engineer incharge	IS 269, IS 455, IS 1489, IS 8112-1989 IS 12269-1987	Any change in cement grade/brand test to be carried out/ Manufacture Certificate
				Initial setting time	2 Tests	AR	1 num						
				Final setting time	2 Tests	AR	1 num						
				Compressive strength	2 Tests	AR	1 num						
6	Steel (Fe-550)	Tonne	132.87	Tensile test							One Test for Each Consignment (all dia of rods)	IS 1786-2008 & IS1608-2005	Certificate from authorised testing labs followed by Manufactures certificate.
				a) Dia of bar 8,10,12	1 Test	1	1 RANDOM						
				b) Weight/mtr 0.395,0.617, 0.888	1 Test	1	BASE						
				c) Yield stress 562,578,580	1 Test	1							
				d) Tensile test 702,722, 730	1 Test	1							
				Bend and re- bend test	1 Test	1						IS 1786-2008 & IS1599-1985	
				Chemical Analysis C-0.30 S-0.055 ph-0.050 S&ph-0.100	1 Test	1						IS 1786-2008 & IS 228 (part1-24)	

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						Const Sub-Dn/PNC	QA Sub-dn		Const Sub-Dn	QA Sub-dn			
7	Steel (Fe-550)	Kg	29899.49	Tensile test							One Test for Each Consignment (all dia of rods)	IS 1786-2008 & IS1608-2005	Certificate from authorised testing labs followed by Manufactures certificate.
				a) Dia of bar 8,10,12,16,20	1 Test	1							
				b) weight/mtr 0.395,0.617, 0.888,1.58,2.47	1 Test	1							
				c) Yeild stress 560,572,598,605,620	1 Test	1							
				d) Tensile test 700,716,722,724,744	1 Test	1							
				Bend and re- bend test	1 Test	1						IS 1786-2008 & IS1599-1985	
				Chemical Analysis C-0.30 S-0.055 ph-0.050 S&ph-0.100	1 Test	1						IS 1786-2008 & IS 228 (part1-24)	
8	Super plastisizer	Ltr	-		-						One Test for Each Consignment	IS 9103-1999 &2003	Certificate from authorised testing labs followed by Manufactures certificate.

BASE

RANDOM

Sl No	Materials required for finishined item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No of test by		No of test by Competent Authority / Manufacturer/ Contractor	Total nos of test conducted by		Frequency as per Relevent IS Codes and MoRTH Quality Plans	Reference	Remarks
						Const Sub-Dn / PMC	QA ~~Sub~~ dn		Const Sub-Dn	QA Sub-dn			
9	Concrete M15	Cum	396.62	Mix Design	1 Set	1						IS 456-2000,IS4926-2003,IS 516-1959 & 1199-1959 IS 8112-1989 for 43 grade IS 12269-1987 for 53 grade	Mix design performed at the beginning of work by contractor & get approval from competent authority
				Slump Test	2 Tests per day	AR	~~AR~~				2 Tests per Day / as required at Site		
				7 days Compressive Strength	4 Sets	100%	-				1-5cum - 1 set, 5-15 cum- 2 set, 15-30cum-3 set, 30-50cum - 4 set , aabove 50 cum- additio 1 set and above 100 cum - 1 set for every 100 cum . For RMC concrete 1 set for every 50cum or part/ As decided by Engineer Incharge		
				28 days Compressive Strength	4 sets	100%	~~100%~~						
10	Concrete M20	Cum	2359.39	Mix Design	1 Set	1						IS 456-2000,IS4926-2003,IS 516-1959 & 1199-1959 IS 8112-1989 for 43 grade IS 12269-1987 for 53 grade	Mix design performed at the beginning of work by contractor & get approval from competent authority
				Slump Test	2 Test per day	AR	~~AR~~				2 Tests per Day / as required at Site		
				7 days Compressive Strength	24 Sets	100%	-				1-5cum - 1 set, 5-15 cum- 2 set, 15-30cum-3 set, 30-50cum - 4 set , aabove 50 cum- additio 1 set and above 100 cum - 1 set for every 100 cum . For RMC concrete 1 set for every 50cum or part/ As decided by Engineer Incharge		
				28 days Compressive Strength	24 Sets	100%	~~100%~~						

SAME

RANDOM

Sl No	Materials required for finishined item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No of test by		No of test by Competent Authority / Manufacturer/ Contractor	Total nos of test conducted by		Frequency as per Relevent IS Codes and MoRTH Quality Plans	Reference	Remarks
						Const Sub-Dn / PMC	QA ~~Sub~~-dn		Const Sub-Dn	QA Sub-dn			
11	Concrete M25	Cum	244.27	Mix Design	1 Set	1						IS 456-2000,IS4926-2003,IS 516-1959 & 1199-1959 IS 8112-1989 for 43 grade IS 12269-1987 for 53 grade	Mix design performed at the beginning of work by contractor & get approval from competent authority
				Slump Test	2 Test per day	AR	~~AR~~				2 Tests per Day / as required at Site		
				7 days Compressive Strength	2 Sets	100%	-				1-5cum - 1 set, 5-15 cum- 2 set, 15-30cum-3 set, 30-50cum - 4 set , aabove 50 cum- additio 1 set and above 100 cum - 1 set for every 100 cum . For RMC concrete 1 set for every 50cum or part/ As decided by Engineer Incharge		
				28 days Compressive Strength	2 Sets	100%	~~100%~~						
12	RMC Concrete M30	Cum	524.48	Mix Design	1	1	~~1~~	~~1~~				IS 456-2000,IS4926-2003,IS 516-1959 & 1199-1959 IS 8112-1989 for 43 grade IS 12269-1987 for 53 grade	Mix design performed at the beginning of work by contractor & get approval from competent authority
				Slump Test	2 Test per day	AR	~~AR~~				2 Tests per Day / as required at Site		The RMC should be Obtained only from the Plant Certified by the Quality Council of India as per the letter no. CE(C&B) dated. 02.09.2015
				7 days Compressive Strength	5 Sets	100%	-				1-5cum - 1 set, 5-15 cum- 2 set, 15-30cum-3 set, 30-50cum - 4 set , aabove 50 cum- additio 1 set and above 100 cum - 1 set for every 100 cum . For RMC concrete 1 set for every 50cum or part/ As decided by Engineer Incharge		
				28 days Compressive Strength	5 Sets	100%	~~100%~~						

BASE

RANDOM

Sl No	Materials required for finishined item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No of test by		No of test by Competent Authority / Manufacturer/ Contractor	Total nos of test conducted by		Frequency as per Relevent IS Codes and MoRTH Quality Plans	Reference	Remarks
						Const Sub-Dn/PMC	QA Sub-dn		Const Sub-Dn	QA Sub-dn			
13	Embankment/ Sub	Cum	38841.71	Grain Size Analysis	1	1					At the time of selection and change of borrow	IS 2720	As per IRC SP 57
				Atterberg Limits	1	1							
				Lab MDD & OMC	1	1							
				~~CBR Test~~	—	—							
		Sqm	64736.00	Field density	86 Sets	86 Nos						IS 2720 (part8 & part2)	
	Camber	Mtr.		Camber	1 test/ 500m	100%					1 set test per 3000sqm	IS 2720 (part8)	For each & every layer
	Shoulders	mtr		Field density	1 Set per 3000 Sqm	100%					1 test/ 500m		
											1 set test per 3000sqm	IS 2720 (part8)	
14	Granular sub base	Cum	206.52	Mix Design	1 Set	100%							Mix Design performed at the begining of work by contractor and get approval from competant authorityfor more than 1 crore work or quantity more than 100 cum
				Physical properties of Aggregates / Design Mix	1Test	100%					One test per 400cum/1 test each source by QA	IS 383-2016, IS2386(part1)-1963 & sampling 2430-1969 ,4926-2003	
				Lab MDD & OMC	1Test	100%							
				Gradation	1Test	100%					One test /400Cum		
		Sqm	1376.80	Field Density	1Test	100%					One test /1000Sqm		
		Mtr.		Camber	1Test	100%					1 test/ 500m		
15	Wet mix macadam	Cum	2788.72	Mix Design	1 Set	100%	RANDOM BASE						Mix Design performed at the begining of work by contractor and get approval from competant authority for more than 1 crore work or quantity more than 100 cum
				Aggregate impact value	3 Tests	100%					1 test per 1000cum/One test each source by QA	IS 383-2016, IS2386(part1)-1963 & sampling 2430-1969 ,4926-2003	Mix design performed at the beginning of work by contractor & get approved from competent authority
				Combined flakiness & elongation indicess	6 Tests	100%					1 test per 500cum/One test each source by QA		
				Lab MDD & OMC	14 Tests	100%					1 test per 200cum/One test each source by QA		
				Gradation	14 Tests	100%					One test /200Cum		
		Mtr.		Camber	1 test/ 500m	100%					1 test/ 500m		
		Sqm	12125.00	Field Density	12 Tests	100%					One set of 3 test /1000Sqm		

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						Const Sub-Dn/PMC	QA Sub-dn		Const Sub-Dn	QA Sub-dn			
					Road works bitumenous								
16	Primer coat	Tonne		Quality of binder	1 Test	100/.	BASE				Each lot / one test per 10Mtonnes	IS 73-2013 and IS 8887	Certificate from authorised testing labs followed by Manufactures certificate.
		Sqm	20542.98	Rate of spread of binder	3 tests / day	100/.					3 tests / day	Morth 500-6	
17	Tack coat	Tonne		Quality of binder	1 Test	100/.	RANDOM				Each lot / one test per 10Mtonnes	IS 73-2013 and IS 8887	Certificate from authorised testing labs followed by Manufactures certificate.
		Sqm	30511.44	Rate of spread of binder	3 tests / day	100/.					3 tests / day	Morth 500-6	
18	Bitumenous Macadam	Cum	-	Mix Design	-	—	-						Mix Design performed at the begining of work by contractor and get approval from competant authority for more than 1 crore work or quantity more than 100 cum
			-	Aggregate impact value	-	—	-				one test /200 cum or change in quality of aggregate		Mix design performed at the beginning of work by contractor & get Verified/ approved from competent authority
			-	Combined flakiness & elongation	-	—	—				one test /350 cum or change in quality of aggregate		
			-	Stripping value	-	—	—				one test of each source / change in quality of	Morth section 500	
			-	water absorption	-	—	—						
			-	Gradation	-	—	—				Two tests /day		
			-	Binder content	-	—	—				Two tests per day per plant/		
			-	Temperature	-	—	—				At regular intervals		
		sqm	-	Field Density	-	—	—				One test /700Sqm		
		Mtr.	-	Camber	-	—	—				1 test/ 500m	as per MORTH 900	

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						Const Sub-Dn/PMC	QA ~~Sub~~ dn		Const Sub-Dn	QA Sub-dn			
19	Semi dense Bitumenous concrete	Cum	-	Mix Design	-								Mix Design performed at the begining of work by contractor and get approval from competant authority for more than 1 crore work or quantity more than 100 cum
			-	Aggregate impact value	-						one test /50 cum or change in quality of aggregate	Morth section 500	
			-	Combined flakiness & elongation	-						one test /50 cum or change in quality of aggregate		
			-	water absorption	-						one test of each source / change in quality of aggregate		
			-	Mix Grading	-						1 set of test of 400T of mix subject to 2 test per day per plant		
			-	Binder content	-						1 set of test of 400T of mix subject to 2 test per day per plant		
			-	Temperature	-						at regular intervals		
		sqm	-	Field Density	-						One test /700Sqm		
		Mtr.	-	Camber	-						1 test/ 500m	as per MORTH 900	

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						Const Sub-Dn/PMC	QA Sub-dn		Const Sub-Dn	QA Sub-dn			
20	Dense Bitumenous Macadum	Cum	1027.15	Mix Design	1 Set	1	RANDOM SAMPLE						Mix Design performed at the begining of work by contractor and get approval from competant authority for more than 1 crore work or quantity more than 100 cum
				Aggregate impact value	3 Tests	100%					one test /350 cum or change in quality of aggregate	Morth section 500	
				Combined flakiness & elongation	3 Tests	100%					one test /350 cum or change in quality of aggregate		
				water absorption	1 test	100%					one test of each source / change in quality of aggregate		
				Mix Grading	2 Tests Per Day per Plant	100%					1 set of test of 400T of mix subject to 2 test per day per plant		
				Binder content	2 Tests Per Day per Plant	100%					1 set of test of 400T of mix subject to 2 test per day per plant		
	1027.15		Temperature	at regular intervals	100%						at regular intervals		
	sqm	20543.00	Field Density	29 Tests	100%						One test /700Sqm		
	Mtr.		Camber	1 test/500m	100%						1 test/500m	as per MORTH 900	
	Sqm	20543.00	Rate of spread of Mix Material	1 Test Per Day	100%						after every 5th truck load		

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						Const Sub-Dn/PMC	QA Sub-dn		Const Sub-Dn	QA Sub-dn			
21	Bitumenous Concrete	Cum	1220.46	Mix Design	1 Set	100%							Mix Design performed at the begining of work by contractor and get approval from competant authority for more than 1 crore work or quantity more than 100 cum
				Aggregate impact value	3 Tests	100%					one test /350 cum or change in quality of aggregate	Morth section 500	Mix design performed at the beginning of work by contractor & get Verified/ approved from competent authority
				Combined flakiness & elongation	3 Tests	100%					one test /350 cum or change in quality of aggregate		
				water absorption	1 Test	100%					one test of each source / change in quality of aggregate		
				Mix Grading	2 Test Per Day per Plant	100%					1 set of test of 400T of mix subject to 2 test per day per plant		
				Binder content	2 Tests Per Day per Plant	100%					1 set of test of 400T of mix subject to 2 test per day per plant		
			1220.46	Temperature	at regular intervals	100%					at regular intervals		
		sqm	30511.50	Field Density	44 Sets	100%					One test /700Sqm		
		Mtr.		Camber	1 test/ 500m	100%					1 test/ 500m	as per MORTH 900	
		sqm	30511.50	Rate of spread of Mix Material	1 Test Per Day	100%					after every 5th truck load		
22	Bitumen	Tonne		Softening point	1 Test	100%					Test in beginning by QA or change in source	IS 73-2013 and IS 8887	
				Flash Point	1 Test	100%							
				Fire point	1 Test	100%							
				Penetration	1 Test	100%							
				Ductility	1 Test	100%							

MAIN

RANDOM

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						Const Sub-Dn/PMC	QA ~~Sub~~-dn		Const Sub-Dn	QA Sub-dn			
Road Furnitures(Traffic Signs, Markings & other Road Appurtances)													
23	Road Markings	Sqm	991.18	width of marking	at regular intervals	100%	RANDOM BASIS				at regular intervals	IRC-67 MORTH	Manufactures certificate.
				free flow test		100%							
				Gradation/Reflective index/roundness	Certicate as per specification	100%					Certicate as per specification	IRC-67 MORTH	
				General requirements	warranty and durability certificate	Warranty & durability certificate					warranty and durability certificate	MORTH spec	
Masonry & Plastering Works													
24	Solid Blocks (400X150X200 mm)	Nos	1615	Dimension	2 Sets	100%	~~10%~~				1 sets of 5 Blocks for every 1000 nos	IS 2185-1 -Part 1 Re 1998	
				Compression strength	2 Sets	100%	~~10%~~						
				Water Absorbtion	2 Sets	100%	~~10%~~						
25	Solid Blocks (400X200X200 mm)	Nos	6443	Dimension	6 Sets	100%	~~10%~~				1 sets of 5 Blocks for every 1000 nos	IS 2185-1 -Part 1 Re 1998	
				Compression strength	6 Sets	100%	~~10%~~						
				Water Absorbtion	6 Sets	100%	~~10%~~						
26	Bricks	Nos	35	Dimension	1 Set	100%	~~10%~~				1 sets of 20 Bricks for every 5000 need to be tested	IS 1077-1992, IS 5454-1978 & IS 3495(part2)-1992	
				Compression strength	1 Set	100%	~~10%~~						
				Water Absorbtion	1 Set	100%	~~10%~~						
27	Brick bats for integral Waterproofing	Sqm	-	Dimension 25mm -100mm	-	100%	~~1mm~~ RANDOM				Each Lot	IS 3068,1986	
				Water Absorbtion									
				Compressive strength									
28	Sand for Masonry	Cum	-	Sieve Analysis	-	~~100%~~	~~10%~~				1 test/100cum and for change of source	IS 2116- 1980, IS2386(part1)-1963 ,2430-1969 &2250-1981.	
29	Sand for Plastering (18 mm thick)	Cum	17.72	Sieve Analysis	1	100%	~~10%~~				1 test/100cum and for change of source	IS 1542- 1992, IS2386(part1)-1963	

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						Const Sub-Dn/ AMC	QA Sub-dn		Const Sub-Dn	QA Sub-dn			
30	Sand for Plastering (20mm Thick)	Cum	20.56	Sieve Analysis	1	100%	RANDOM ~~100~~ BASIS				1 test/100cum and for change of source	IS 1542- 1992, IS2386(part1)-1963	
				Doors & Windows									
31	Sal Wood Frames	Nos	1.00	Moisture Content Identification of Wood Physical Test	1 test	1	↑	1			For 1500 frames (for each consignment of same source)	IS 1708-1986	Certificate from authorised testing labs followed by Manufactures certificate.
32	Flush Shutters	Nos	1.00	Dimension, Local Planeness, Impact indentation, Edge Loading	1 test	1	BASE	1			For 1000 shutters	IS 4020 - 1988 IS 2202 - 1999	Certificate from authorised testing labs followed by Manufactures
33	UPVC Windows	Sqm	27.24	Density Tensile strength Vicat softening temperature	1 test	1	↓ RANDOM	1			Each Consignment	ASTMD 792 ASTMD 638 IS 6307	Certificate from authorised testing labs followed by Manufactures certificate.
34	Aluminium Works	Sqm	-	Thickness Weight/ Meter	-			1			Each Consignment	IS 1081-1960, IS1948-1961,IS3908-1986, IS3909-1986 &3921-1985.	Manufactures certificate.
35	Glass	Sqm	-	Thickness	-			1			Each Consignment	SP 21 Doc CED13(7127) ,IS 1003(Part 2):1994	Manufactures certificate.
				Flooring and dadooing									
36	Granite	Sqm	317.67	Density Compressive strength Abrasion test	1 test	1	BASE →				1 Test for each consignment for each variety upto 100-1 nos, 300-3 nos, 301-600 6 nos	IS 1237 -1980 IS 14223(part-1)-1995 & IS 4905-1969,1706-1972 ,1124-1974 .	Certificate from authorised testiig labs followed by Manufactures certificate.
				Thickness Shade & colour Water absorption	1 test	1	← RANDOM						

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						Const Sub-Dn / APHC	QA Sub-dn		Const Sub-Dn	QA Sub-dn			
37	Vitrified Tiles	Sqm	37.10	Water absorption	1 test	1					1 Test for each consignment for each variety upto 100-1 nos, 300-3 nos, 301-600 6 nos	IS 13630 part 15-2006 & ISO 10545-2	Certificate from authorised testing labs followed by Manufactures certificate.
				Modulus of rupture									
				Warpage									
				Hardness	1 test	1							
				Rectangularity									
				Straightness									
38	Ceramic Tiles / Glazed Tiles	Sqm	29.35	Modulus rupture	1 test	1					1 Test for each consignment for each variety upto 100-1 nos, 300-3 nos, 301-600 6 nos	IS 13630 part 15-2006 & ISO 10545-2	Certificate from authorised testing labs followed by Manufactures certificate.
				Warpage									
				Hardness									
				Rectangularity	1 test	1	BASE						
				Straightness									
				Water Absorption									
39	Paver Blocks 60mm thick	Sqm	3772.72	Dimension test	1 test	1	RANDOM				(Frequency 8 for each test for each consignment of 50000nos)	IS -15658-2006	Certificate from authorised testing labs followed by Manufactures certificate.
				Abrasion Test									
				Water absorption									
40	Paver Blocks 75mm thick	Sqm	1194.40	Dimension test	1 test	1					(Frequency 8 for each test for each consignment of 50000nos)	IS -15658-2006	Certificate from authorised testing labs followed by Manufactures certificate.
				Abrasion Test									
				Water absorption									

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						Const Sub-Dn/PMC	QA Sub-dn		Const Sub-Dn	QA Sub-dn			
	Steel fabrication works												
41	Stainless steel for railing	Sqm	331.20	Physical Test	1 test	1					Each Consignment	IS 1608-2005 & IS 1599-2012	Certificate from authorised testing labs followed by Manufactures certificate.
				Chemical Test	1 test	1							
42	M S Steel for fabrication Window & Door Grill works	Kgs	1328.04	Physical Test	1 test	1	BASE				Each Consignment	IS: 1608 - 2005; IS: 1730-1989, IS :808-1989 & IS	Certificate from authorised testing labs followed by Manufactures certificate.
				Chemical Test	1 test	1	RANDOM					IS: 8811 - 1998	
43	M S Steel for fabrication Truss Work	Kgs	11103.67	Physical Test	1 test	1					Each Consignment	IS: 1608 - 2005	Certificate from authorised testing labs followed by Manufactures certificate.
				Chemical Test	1 test	1						ASTM E 415 : 2014 / IS 8811 : 1998	
	Waterproofing Works												
44	Waterproofing Works	No of Units	-	Pond Test	-	100%					Each Unit		

Note:

1 For Water Suppy, Sanitory, Electrical and other Items nessasary certificate indicating the quality as per the prescribed IS shall be obtained by the Authorised/Manufactures shall be obtained during the execution of the Work.

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ
ಬೃ.ಬ.ಮ.ಪ. ಬೆಂಗಳೂರು-

Executive Engineer
Bruhat Bengaluru Mahanagara Palike
Yelahanka, Division

"ಗುಣ ಭರವಸೆ ಯೋಜನೆ (QAP) ಅನುಬಂಧ"

ಮುಖ್ಯ ಅಭಿಯಂತರರು
ಗುಣಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ